# READ ME FIRST !

**OUT-THINK**™

INSTALLATION INSTRUCTIONS

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CONTENTS


1 ROADMAP ..... 1

2 CAN OUT-THINK BE CONFIGURED FOR YOUR COMPUTER .. 2
2.1 Removing the disk from its Sleeve ..... 4

3 INSTALLING OUT-THINK - STEP BY STEP PROCEDURE .. 5
3.1 STEP 1: Back up your Master System Disk .. 5
3.2 STEP 2: Configure your Machine or Terminal ..... 10
3.2.1 Selecting from the Terminal List ... 12
3.2.2 Detailed Configuration for Machines Not Listed ..... 13
3.3 STEP 3: Specify your Disk Drives ..... 17
3.4 STEP 4: Select the Editing Style You Prefer ..... 19
3.5 STEP 5: Configure Printer Initialization . 21
3.6 STEP 6: Save the Configuration and Exit .. 23

4 CONFIGURATION NOTES FOR SPECIFIC MACHINES ..... 25
4.1 General ..... 25
4.2 Single Sided Disks in Double Sided Drives . 25
4.3 Hard Disk Systems ..... 26
4.4 Computers with RAMDISKS ..... 27
4.5 CP/M Emulators ..... 27
4.6 Apple ..... 29
4.7 Commodore 128 ..... 30
4.8 DEC Rainbow ..... 31
4.9 Kaypro ..... 31
4.10 Osborne I ..... 32
4.11 Osborne Executive ..... 32
4.12 Radio Shack Model 4 ..... 33

# 1 ROADMAP

Welcome to the OUT-THINK outline processor! We're glad that you've chosen this exciting new approach to writing that combines the discipline and structure of outlines with the flexibility and power of computers. You'll soon be amazed at the ease of developing and organizing your ideas and the resulting clarity of your thoughts. OUT-THINK makes thinking fun!

Before you get started with outlining, you need to follow the instructions in this booklet to install the OUT-THINK software on your computer system.

Here is a list of materials that you should find with your unit:

- READ ME FIRST (This Installation Instruction Booklet)
- OUT-THINK User's Guide
- OUT-THINK Reference Cards
- OUT-THINK Registration Card
- OUT-THINK Master System Disk

Before you break the seal on the Master System Disk, take a few minutes to read the license agreement and warranty. Then, read the following section to determine if OUT-THINK can be configured to run on your computer system.

# 2 CAN OUT-THINK BE CONFIGURED FOR YOUR COMPUTER?

NOTE

Please read this section before you open the Master Working Disk and try to configure OUT-THINK for your system.

First, make sure that your computer meets the following requirements. To run OUT-THINK, you need this equipment:

- a computer that runs CP/M-80, Version 2.2 or above with an 8080, a Z80, or an 8085 processor
- at least 48K of RAM for the TPA (transient program area) under CP/M
- at least 200K of total disk storage capacity (on one or more drives)
- at least one drive with 126K of disk storage capacity
- 80 column x 24 line ASCII terminal with direct cursor addressing
- a printer assigned to the CP/M LST: device

The OUT-THINK software can be configured to run on most CP/M-80 computers. However, because of the wide variety of disk drives and terminals, we cannot guarantee that OUT-THINK can be configured to work on every system.

For example, there is a 44K version of the Microsoft Softcard CP/M for the Apple II computer. OUT-THINK will not run on this version of CP/M because it does not meet the memory requirements of a 48K TPA. Some of the older computers run the older Version 1.4 of CP/M-80 and cannot be configured to run OUT-THINK.

## CAN OUT-THINK BE CONFIGURED FOR YOUR COMPUTER?

The Osborne I with single density disk drives does not meet the disk storage requirements and cannot be configured to run OUT-THINK; configuring OUT-THINK for the Osborne requires the double density drives.

Some terminals such as the terminal on the TRS-80 Model III have only 64 columns and won't work with OUT-THINK. There are also some older terminals that do not have direct cursor addressing; again, OUT-THINK cannot be configured to run on these.

In addition to the above requirements, you will need a way to read the OUT-THINK Master System Disk. OUT-THINK is distributed on a wide variety of disk formats. However, in the world of CP/M, disk formats are not usually compatible between different computers.

Check the label on the Master System Disk and make sure that it is a format that you can read on your computer.

If you have double-sided drives and your Master System Disk is a single-sided format for the same brand of computer, see the notes at the end of this booklet for information on reading the Master directly on your system.

If you cannot directly read the Master Disk format, you may still be able to convert the files to your system. Generally, this means finding a computer that can read the format and transferring the files across serial ports to your computer or using a multi-format disk utility program (e.g., Uniform or Media Master). We do not offer this service. We do provide OUT-THINK in most soft-sectored 5-1/4" disk formats and in the

standard 8" SSSD format. We do not provide any hard-sectored formats.

If your computer does NOT meet the requirements described above, then return the entire product to the place of purchase for a refund before opening the sealed master disk. Call or write us if you have any doubts about whether OUT-THINK will run on your computer:

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If all seems well, then make sure to fill out and mail the registration card. By doing so, you can qualify for valuable discounts on updates to OUT-THINK and on future KAMASOFT products.

## 2.1 Removing the Disk from its Sleeve

The disk is sealed in its sleeve with a permanent adhesive label. This label cannot be removed. Don't try to un-peel it from the surface of the sleeve or the surface of the disk. Instead, run your finger under the sleeve and tear the label at the boundary between the sleeve and the disk. Once you have torn the label, do not try to remove the remaining label from the surface of the disk. Just leave it attached.

# 3 INSTALLING OUT-THINK - STEP BY STEP PROCEDURE

Installing OUT-THINK is an easy process of:

1) Backing up the files from the Master System Disk
2) Configuring OUT-THINK for your computer

Backing up files from the Master System Disk is a safety measure. You copy all the files to a Working System Disk, and always use the working copy that you make. Save the original master in a safe place in case you ever need to re-copy it.

Configuring OUT-THINK for your computer just means that you describe some of the characteristics of your computer to the OUT-THINK software, especially your terminal and disk drives. Then, OUT-THINK can take advantage of any special features that you have available to run faster and more efficiently.

The installation instructions in this booklet are general instructions for both backing up and configuring OUT-THINK to install the software on your computer. The instructions are divided into 6 steps. Follow them in order unless they tell you otherwise.

For machine specific notes, see the section at the end of this booklet.

## 3.1 STEP 1: Back up your Master System Disk

The first thing that you should do is back up your Master System Disk. If your Master System Disk is not write-protected, place a write-protect tab on it before proceeding with these instructions.

## STEP 1: Back up your Master System Disk

There are five files on the Master System Disk that must be copied:

OT.COM
OT.CFG
OTCFG.TOP
HELP.TOP
DEMO.TOP

Two files, OT.CFG and OTCFG.TOP, are only used during configuration and are automatically erased when you finish configuring OUT-THINK. The other three files are used in running OUT-THINK. (The file DEMO.TOP is not needed to run OUT-THINK; however, it is used in the tutorial sessions in the OUT-THINK User's Guide.)

Before proceeding further, consult the section at the end of this booklet containing machine specific notes. If any of these notes are applicable to your computer, you may want to follow the configuration instructions you find there. Return to this section when you are done.

STEP 1 has two alternate paths. If you operate on a computer with floppy drives, then read on. But if you operate on a computer with a hard disk, then skip ahead to the next section on hard disk systems.

## STEP 1: Back up your Master System Disk

IF YOU HAVE TWO OR MORE FLOPPY DISK DRIVES:

1A. Format three blank disks using the appropriate system utility that comes with your computer. Refer to the CP/M documentation that comes with your computer for step-by-step instructions. On many CP/M systems, the format program is called FORMAT. It may also be called INIT. On the Kaypro and the Osborne, the COPY program has a format option to format blank disks. On the Otrona, use the DISK program. On the Epson QX-10, option 3 of the COPYDISK program (Create an Application Program Diskette) combines the format, sysgen, and copy operations.

1B. Sysgen (i.e., copy the CP/M operating system onto) the three blank disks using the sysgen program that comes with your computer. Refer to your CP/M documentation for step-by-step procedures. On many systems, the sysgen program is called SYSGEN. On some computers, you can select a SYSGEN option as part of a general COPY, COPYDISK, or DISK program and sysgen the disk at the same time that you format it.

1C. Copy the files from the distribution disk (labeled Master System Disk) onto one of the formatted disks that you just created. The other two formatted disks will be used later during the tutorial sessions in the OUT-THINK User's Guide.

You can use the CP/M PIP command to copy the files. You must first copy the file PIP.COM from your CP/M disk in drive A to the newly formatted disk in drive B:

```
A>PIP B:=A:PIP.COM[V]
```

STEP 1: Back up your Master System Disk

Now, remove the CP/M disk from drive A and set it aside. Remove the disk in drive B and place it in drive A. Then, insert the OUT-THINK Master System Disk disk in drive B. Press CTRL-C to reset the disks, and type the following command at the CP/M prompt:

```
A>PIP A:=B:*.*[V]
```

1D. At this stage, the formatted disk contains the OUT-THINK software and should be used as your Working System Disk. Place a Working System Disk label on the Working System Disk you have just made. The other two formatted disks will be used as data disks during later tutorial sessions. Do not write-protect any of these disks. Place the newly created Working System Disk back into drive A and one of the other empty formatted disks into drive B and type CTRL-C to reset the drives.

1E. Next, use the PIP command to copy the file HELP.TOP from the Working System Disk to the data disk:

```
A>PIP B:=A:HELP.TOP
```

This extra copy of HELP.TOP (on one of your data disks) will be used later during one of the tutorial sessions in the OUT-THINK User's Guide.

Remove the disk in drive B and set it aside for later. Replace it in B with the other empty formatted data disk.

Thus, after you've completed backing up OUT-THINK for a floppy based computer, you should have three disks:

## STEP 1: Back up your Master System Disk

1) A Working System Disk in drive A
2) An empty formatted data disk in drive B
3) Another formatted data disk nearby for later use during the tutorial sessions. (It contains only one file called HELP.TOP on it.)

STEP 1: Back up your Master System Disk

IF YOU HAVE A HARD DISK SYSTEM:

1A. Copy the distribution disk labeled Master System Disk onto your hard disk. You can copy the files into an alternate user area or a drive other than drive A if you want. Use the PIP command. For example, if your floppy drive is drive B and the hard disk is drive A, place the Master System Disk in the floppy drive and type the following command at the CP/M prompt:

```
A>PIP A:=B:*.*[V]
```

Copy all the files onto the drive you want. In this example, the files are copied onto drive A.

1B. Make the drive and user area where you have copied all the OUT-THINK files into the operating system default drive. For example, if you copied all the OUT-THINK files to drive C, user area 12. Make drive C, user area 12 the default.

## 3.2 STEP 2: Configure your Machine or Terminal

Save the Master System Disk in a safe place in case you need to re-copy it at a later time. Run OUT-THINK by typing:

```
A>OT
```

at the CP/M command line prompt. The first time that you run OUT-THINK, the software detects that it has not yet been configured, so it automatically runs the configuration program. Since the terminal has not yet been configured, all the screen displays scroll up from the bottom of the screen.

## STEP 2: Configure your Machine or Terminal

You must configure OUT-THINK for four things: your terminal, your disk drives, the editing commands you prefer, and printer initialization.

First, OUT-THINK displays a menu of machines similar to the following one and allows you to select your machine to automatically configure its terminal:

```
                ==== OUT-THINK [tm] INSTALLATION ====
Select the Machine that you wish to install OUT-THINK on. If your
machine is not in the following list, then select 0 - Other. Also,
select Other if you wish to perform a more detailed installation of
OUT-THINK for special situations [eg, configure for a separate video
terminal]. You will be returned to this menu after you have answered
all the Installation questions. At that time, select the S option to
Permanently Save the OUT-THINK configuration.

0 - Kaypro [all CP/M Models]              1 - Epson QX10,QX16 [with CP/M]
2 - Osborne I [with DD]                   3 - Osborne Executive or Vixen
4 - Otrona Attache                        5 - Zorba
6 - Xerox 820-I                           7 - Xerox 820-II
8 - Televideo 802,803                     9 - Apple II [Softcard CP/M]
A - TRS80 [Pickles&Trout CP/M]            B - TRS80 Mod4 [Montezuma CP/M]
C - DEC Rainbow [CP/M-80]                 D - Lobo Max 80
E - Commodore-128 [CP/M+]                 F - Bondwell 12,14,16
G - Morrow MD2,MD3,MD5,MD11 [with MDT20,MDT50,MDT60, or MT70 Terminal]
O - Other [Specific Terminal Configuration]

S - Save New Configuration Permanently and Exit to CP/M
X - Exit to CP/M with No Changes
```

## STEP 2: Configure your Machine or Terminal

If your computer appears on the list, type in the single number or character preceding it to configure the terminal for your system. Do not press RETURN after typing your selection. For example, if you have a Kaypro, type the digit 0 (zero) to select Kaypro. If you select a machine, OUT-THINK goes on to configure your disk drives next, so skip to STEP 3.

### 3.2.1 Selecting from the Terminal List

If your machine is not listed, type the letter O to go to the second terminal menu which resembles the following:

```
Select the appropriate Video Terminal that you are using with your CP/M
computer.  If your terminal is not listed below, then select O - Other.

0  ACT-5A                              1  ADDS Viewpoint
2  Beehive 150                         3  Beehive Standard,Basic,Plus
4  Cromemco C-10                       5  DEC VT-52
6  Digital Micro Systems               7  Esprit 6310,Esprit,Esprit II
8  Esprit III                          9  Falco Fame-78
A  Falco TS-1,TS-42                    B  General Terminal SW-80
C  Hazeltine 1420,1500                 D  Honeywell VIP-7201,7301
E  IBM 3101                            F  Intertec Superbrain
G  Lear Siegler ADM-3A,5               H  Lear Siegler ADM-11,12,22
I  Lear Siegler ADM-31                 J  Liberty Freedom 50,100,110,200
K  Northstar Advantage                 L  Perkin-Elmer Bantam-550,FOX-1100
M  Qume QVT-102,108                    N  Sanyo MBC-1100,1150
P  Soroc IQ-120                        Q  Teleray 1061
R  Televideo 910 to 950                S  Visual 200
T  Wyse 50                             U  Wyse 100,300
V  Zenith Z-19,89,90,100               W  ANSI Standerd (eg, DEC VT-100)

O  Other (Detailed Configuration)      X  Exit to CP/M with no Changes
```

Instead of listing computer systems, the second menu lists terminals. Many popular Z80 computers have built-in terminals supplied by the manufacturer. In most cases, these built-in terminals act like one of the popular stand-alone terminals. For example, the Osborne Executive emulates the Televideo 925 terminal, and so does the Commodore 128.

If your computer has a built-in terminal and it was not listed on the machine menu, you may be able to find out what stand-alone terminal it acts like. Then, you can select that terminal from this second menu.

Also, if your computer has a stand-alone terminal, chances are that it is on the second terminal menu or it acts like one of the terminals listed. Again, you can select the terminal from the second menu.

Specify terminals the same way you specify machines by typing in the single character or digit preceding the terminal you select. Do not press the RETURN key after your selection. If you specify a terminal, OUT-THINK goes on to configure your disk drives, so skip to STEP 3.

### 3.2.2 Detailed Configuration for Machines Not Listed

If your computer was not listed on the first menu of the configuration program or on the second terminal menu, type the letter O again. Don't press the RETURN key after typing O. In this case, you will have to provide a detailed description of your terminal to OUT-THINK. You will probably find the required

information in your computer manuals or by contacting your dealer or manufacturer. OUT-THINK prompts for the information it needs.

First, you must specify which class of terminal you have. The following screen appears when you type 0 to the second terminal menu:

```
==== Detailed Terminal Configuration ====

When it comes to cursor positioning codes, there are two basic
classes of terminals commonly found with personal computers. One
class accepts its Row and Column values for cursor positioning as a
single byte each. The other class accepts a variable number of
ASCII bytes to specify Row position and a variable number of ASCII
bytes to specify Column position.

Most terminals that accept variable length ASCII cursor positioning
values obey the ANSI X3.64 Standard. One popular ANSI standard
terminal is the DEC VT100. If you have an "ANSI Standard" terminal
then answer N to this question.

Most Mass-market CP/M personal computers with manufacturer-supplied
video terminals (eg, Kaypro, Osborne, Morrow, Epson, Televideo,
Xerox, Lobo, Otrona, Zorba) accept a single byte each for Row and
Column Position. If you have such a computer then answer Y to this
question. If you have no idea about this then try Y.

==== Single Byte Each for Row and Column?
```

If you type Y, OUT-THINK then prompts for the following 11 items:

1. the command sequence that instructs your terminal that cursor positioning characters follow

2. the command sequence that separates the row and column values
3. the command sequence that signals the end of the row and column values
4. the bias value to be added to the row value to get the actual row number
5. the bias value to be added to the column value to get the actual column number
6. the order of the row and column values (row first or column first)
7. the command sequence to clear the screen and home the cursor
8. the command sequence to clear from the cursor to the end of the line
9. the command sequence to clear from the cursor to the end of the screen
10. the command sequence for the insert line function
11. the command sequence for the delete line function

If you type N to the terminal class prompt to specify a variable length ASCII terminal, OUT-THINK then prompts for all the preceding items except for numbers 4 and 5. Bias values are not available for variable length ASCII terminals.

In both cases, items 1 and 6 are absolutely required; your terminal must have direct cursor addressing. The other values are optional. But if your terminal has any of the other features, OUT-THINK will run faster if you specify them during configuration.

Each command sequence should be entered one byte at a time. You are prompted separately for each byte.

STEP 2: Configure your Machine or Terminal

Enter all values as hexadecimal, ASCII codes.

For example, suppose your terminal uses ESC = as the command sequence to start cursor positioning (item 1). The hexadecimal value for ESC is 1B; and the Hex code for = is 3D. At the first prompt, type 1B followed by RETURN:

```
=== Hex Byte (Eg. 1B): 1B
=== Hex Byte (Eg. 1B): 3D
=== Hex Byte (Eg. 1B):
```

You immediately get the same prompt to enter the next byte. Type 3D followed by RETURN. Again, you get the same prompt, but there are no more values to enter for this command sequence, so press RETURN to go on to the next configuration item (2). Leading zeros are not required. Do not type the letter H after the hex value; do not type any characters other than the two hex digits; spaces and other extraneous characters are not allowed.

Bias values (items 4 and 5) are single byte, hexadecimal values. Enter the bias value just like the example above except that when you enter the bias value at the prompt, the program goes on to the next prompt automatically as soon as you press RETURN.

For the row/column order, type Y if the row is specified before the column and N if the column is specified before the row on your computer. Don't press RETURN for this value; just type the single key Y or N.

If your terminal does not have one of the features requested, press RETURN at the first prompt to skip that item.

After the prompt for the last item (delete line), the detailed terminal configuration is done and OUT-THINK continues with the next step in the configuration program: specifying your disk drives.

## 3.3 STEP 3: Specify your Disk Drives

After specifying your computer or terminal, OUT-THINK prompts for the drive search path:

```
==== Old Drive Path: A
     New Drive Path:
```

When you are installing OUT-THINK, the old drive path is always a single drive and is the same as the current CP/M default drive. If you press RETURN without entering a new drive path, the old path is retained as the OUT-THINK default.

If you are not sure what to enter, read the remainder of this section for an explanation before entering the drive path.

The drive search path is a list of disk drives available on your system. It specifies all the drives that OUT-THINK is aware of. In other words, if you don't specify a drive as part of the search path, OUT-THINK cannot access topics on that drive even if the drive is physically connected to your system and CP/M is aware of it. The only drives that OUT-THINK knows about are ones in the current drive search path.

STEP 3: Specify your Disk Drives

You can easily change the drive search path when you are running OUT-THINK, but the path that you specify during configuration is the default path that is initially used each time that you run OUT-THINK from CP/M. If you change it during a session, the change remains in effect only for the duration of that session.

To specify a new drive path, make a list of the drives available on your system. Under CP/M, drives are specified as characters of the alphabet from A to P. For example, the Kaypro 2 has two drives: A and B. You may have added drives or RAMDISKs to your computer, so include them on your list if you want OUT-THINK to access them.

Rewrite your list in the order you want the drives accessed. OUT-THINK looks for topics based on the order of the drive search path. If you specify "AB" it will search drive A first and then drive B. If you specify "BA" it will search drive B first. Also, the first drive in the list is used as the default drive during OUT-THINK operations. This means that if you specify a file without a drive spec, OUT-THINK will assume the first drive in the path list.

Once your list is complete, type in the letters with no spaces or punctuation marks and press RETURN to enter the new path. For example, if you want to specify two drives (A and B), enter AB at the prompt:

```
==== Old Drive Path: A
     New Drive Path: AB
```

Note that whatever drives you specify as the drive path must be available when you run OUT-THINK. So if you specify a RAMDISK, you must have the RAMDISK installed when you run OUT-THINK. You must also have

a disk in any floppy drive that you specify. The disk must be formatted; it does not have to have topic files on it. OUT-THINK will not run unless it finds all the drives in its default search path and all the floppy drives have disks in them.

However, you do not have to specify a drive even if it is available. For example, if you run on a hard disk system, and you rarely use the floppy during OUT-THINK, you can leave the floppy off the drive path. Later, if you need to access a topic on the floppy, simply add the floppy drive to the current session. Otherwise, you will have to remember to put a disk in the floppy drive in order to run OUT-THINK. For example, if you have a Morrow MD 5 or 11, you can specify only the hard disk (drive A) as the search path:

```
==== Old Drive Path: A
     New Drive Path: A
```

When you run OUT-THINK, the file HELP.TOP must be available on one of the drives in the search path. OUT-THINK must find this file containing system help messages in order to run.

## 3.4 STEP 4: Select the Editing Style You Prefer

Next, OUT-THINK prompts you to configure the screen editors. You can set up the outline editor and leaf editor to act like a Wordstar- or NewWord-style editor; or you can select a Perfect Writer-style editor. The difference between the two is in the command keys. In the WS-style editor, command keys are similar to the popular Wordstar word processor.

For example, the cursor control keys appear in a diamond-shaped pattern on the keyboard:

CTRL-E goes to the previous line (up)
CTRL-X goes to the next line (down)
CTRL-S goes backward (left)
CTRL-D goes forward (right)

In the PW-style editor, command keys are similar to the Perfect Writer or EMACS style editor. For example, the cursor control keys are mnemonic:

CTRL-P goes to the previous line (up)
CTRL-N goes to the next line (down)
CTRL-B goes backward (left)
CTRL-F goes forward (right)

If you are familiar with one or the other word processors, you should choose the style you are familiar with. If you are familiar with neither of these word processors, then you should probably select the WS-style, since the User's Guide assumes this configuration for its examples. Appendix C in the OUT-THINK User's Guide contains a chart comparing the two configurations.

Type Y at the prompt to choose a PW-style editor or N to choose the WS-style editor. Do not press RETURN after your choice.

Later, when you save your configuration (see STEP 6 below), OUT-THINK is permanently configured to reflect your choice. The editor help screens are also modified to reflect your choice of editing commands. If you later want to change your mind, you'll need to copy all the files from the original Master System Disk and re-configure OUT-THINK to select the alternate style.

## 3.5 STEP 5: Configure Printer Initialization

OUT-THINK allows you to specify an initialization string that can optionally be sent to your printer at the start of each OUT-THINK session. Some printers require initialization strings; others allow you to select modes (compressed or expanded), fonts, pitch, and so on.

If you setup an init string during configuration, OUT-THINK prompts you at the beginning of every session to send that string to your printer. If you type Y to the prompt, then, all subsequent printing will be in the mode, font, and pitch that you specified in the init string.

Initialization strings vary from printer to printer, so you must consult your printer manual to find out what string, if any, to enter. Unless you want to configure your printer a special way, you don't need to set up an initialization string. If you don't want to setup an initialization string, type N at the prompt:

```
==== Enter: N - Return to Main Menu; Y - Setup Printer Init:
```

You will then be done with the OUT-THINK configuration and you will be returned to the main menu to save the information and exit back to the operating system.

If you type Y, you can then enter up to 23 hexadecimal bytes that can be sent to your printer everytime you run OUT-THINK.

STEP 5: Configure Printer Initialization

Each character of the init string is entered one byte (two hexadecimal digits) at a time. You are prompted separately for each byte. Enter all values as hexadecimal, ASCII codes.

For example, suppose your printer is capable of printing in emphasized mode with a proportional font. To set the emphasized mode, you must send the printer an ESC E; to set the proportional font, send the printer an ESC o. The hexadecimal value for ESC is 1B; E is 45; o is 6F, so the sequence 1B 45 1B 6F will init the printer. At the first prompt, type 1B followed by RETURN:

```
==== Hex Byte [Eg. 1B]: 1B
==== Hex Byte [Eg. 1B]: 45
==== Hex Byte [Eg. 1B]: 1B
==== Hex Byte [Eg. 1B]: 6F
==== Hex Byte [Eg. 1B]:
```

You immediately get the same prompt to enter the next byte. Type 45 followed by RETURN. Again, you get the same prompt; type 1B again followed by RETURN to set the font. At the next prompt, type 6F followed by return. At the next prompt, you have no more values to enter, so press RETURN to end the printer init entry and return to the main menu.

You could continue entering up to 23 bytes to set other values for your printer, like margins, spacing, and so on. After you enter the last value, press a single RETURN at the next prompt (without a value) to escape back to the main menu.

When entering the hex values, do not type the letter H after the hex value; do not type any characters

other than the two hex digits; spaces and other extraneous characters are not allowed. Leading zeroes are not required.

## 3.6 STEP 6: Save the Configuration and Exit

When you are done answering the printer configuration item, OUT-THINK returns to the main menu. If you think you have entered all the information correctly, type S to save the configuration permanently and exit back to your operating system. Do NOT press the RETURN key after typing S.

If you think you made a mistake, then you can start the entire configuration over at the main menu by making a selection other than S. At this point, you can also type X to exit to the operating system without recording any of the changes.

After you type S, OUT-THINK erases two files that are only needed during configuration: OT.CFG and OTCFG.TOP. After the configuration is saved, the next time you run OUT-THINK, it will detect that it has already been installed and will sign on and begin running without going through the configuration program again.

If you make a mistake entering data during configuration, chances are that you won't realize it until you try running OUT-THINK and find that it won't work properly.

By this time, you will have already saved the changes permanently, and you will have to start over at STEP 1 by copying the Master System Disk to a fresh Working

System Disk. Then, you can configure the new Working System Disk with the correct values.

If you need to reconfigure OUT-THINK later because of changes to your computer system, you must copy the files from the Master System Disk, starting over with STEP 1 of the installation.

For example, if you add a RAMDISK or hard disk to your system, you may want to change the default drive search path to include your new equipment. Or if you add a new terminal, you may need to reconfigure for it. Or you might simply decide that you like the other editor configuration better. Whatever the reason, simply copy the Master System Disk over to a new Working System Disk and go through the configuration steps again.

This completes the installation procedure. See the OUT-THINK User's Guide for further information on learning and using the program. Remember, when you first run OUT-THINK, you must have a disk in every drive that you specified as part of the default drive search path when you installed the program.

# 4 CONFIGURATION NOTES FOR SPECIFIC MACHINES

The following sections contain notes on installing OUT-THINK and using it on specific computers.

## 4.1 General

On many systems, such as the Kaypro and Morrow, the arrow keys (up arrow, down arrow, right arrow, and left arrow) can be assigned different values using a SETUP or KEY program. OUT-THINK assumes that these four keys are assigned as follows:

| | | | |
|---|---|---|---|
| Up Arrow: | CTRL-K | Left Arrow: | CTRL-H |
| Down Arrow: | CTRL-J | Right Arrow: | CTRL-L |

If your keys are assigned differently, you can either configure them using the CONFIG program supplied with you Kaypro or the KEY program supplied with the Morrow before you run OUT-THINK, or you can use alternate commands in the screen editor to move the cursor on the display screen.

## 4.2 Single Sided Disks in Double Sided Drives

Some computers are available in two models from the same manufacturer: one with single sided disk drives and the other with double sided drives. For example, the Kaypro 2 and II have single sided drives while the Kaypro 4, IV, 10, and 2X have double sided drives. As another example, the Morrow MD2 has single sided drives while the Morrow MD3, MD5, and MD11 have double sided drives.

In most cases like this, it is possible to read the single sided disks in the double sided drives from the same manufacturer. However, the reverse is not true. For example, the Morrow MD3 computer can read MD2 single sided disks but the MD2 cannot read the MD3 double sided disks. (Note: the disks have to be formatted for the same brand of computer. You can't read Morrow formatted disks in a Kaypro.)

If you have received a single sided disk for the same brand of computer that you have, but your computer is double sided, chances are that you can still read the disk with no problem.

Note: on the Kaypro 2X and 4 double sided drives, you must read the single sided disk in drive B only. On these computers, drive A is not set up to read single sided disks. Copy the master from drive B to drive A.

## 4.3 Hard Disk Systems

OUT-THINK works well on most hard disk systems. In CP/M 2.2, you must copy all the OUT-THINK files to the user area from which you run. You cannot access files in other user areas.

With CP/M 3.0, you don't need a copy of OT.COM in alternate user areas if you have set this file to the SYS type in User 0. Use the SET command to set the file type:

```
A>SET OT.COM[SYS]
```

You cannot modify topics outside your user area and you can access only those files in User 0 that are set to type SYS. You MUST have a copy of HELP.TOP in every user area in which you run OUT-THINK.

## 4.4 Computers with RAMDISKS

OUT-THINK works well on most RAMDISKS. As a convenience, we have included a Backup command. See the reference section of the OUT-THINK User's Guide for details. The Backup command allows you to copy files to and from your RAMDISK from within OUT-THINK, so you don't have to exit to the operating system to load data files onto the RAMDISK.

We recommend that you use your RAMDISK for topic files rather than the OUT-THINK .COM file. The program is loaded into your computer's memory one time at the beginning of each session, and you won't gain significantly by loading it from a RAMDISK. Operations can be speeded up greatly by having your topic files on RAMDISK.

## 4.5 CP/M Emulators

OUT-THINK requires only the instruction set of the Intel 8080 CPU to run. Thus it will run on a wide variety of computers that run CP/M-80 on such processors as the 8080, 8085, and the Z80.

There are many CP/M emulators that allow you to run CP/M programs on machines that do not have CPU's that support the 8080 instruction set. Some of these emulators accomplish the emulation solely in software; some require hardware with the software. The most interesting of these emulators allow you to run CP/M software on the very popular IBM-PC (or its close compatibles).

OUT-THINK has been tested on many of these emulators. It runs well on many and won't run on some. There is one important requirement that we've noticed in our testing: The CP/M emulator must emulate BDOS call 32 (SET/GET User Code) and must ALWAYS return a value of 0 in the A register.

Of these emulators, the best performance we've seen is on the ones that use the NEC V20 Series Chip. This Integrated Circuit replaces the 8088 chip in the PC-compatible and, in addition to running PC-DOS a little faster, it allows you to run CP/M-80 programs directly.

Here are a few pointers if you purchased OUT-THINK to run on your PC-compatible using a CP/M emulator. The example used here is the Acceler8/16 emulator from Intersecting Concepts. This emulator is based on the NEC V20 chip and incorporates an emulation of the popular Kaypro II terminal.

1) You will have to perform the actual installation of OUT-THINK on a "real" CP/M machine in this case. This is because Acceler8 only recognizes command files renamed to a .CPM extension; whereas, OUT-THINK must modify its own command file (OT.COM) during configuration.

2) When you get the main OUT-THINK configuration menu, select Kaypro as the machine because that is the version of Acceler8 in this example.

3) Specify the drive array that you anticipate you'll have on the PC-compatible. For example, on a Zenith Z150 with 10 Meg hard disk as drive C:, just use drive C. You can later expand this drive search path from within OUT-THINK to include other drives.

4) After you complete the configuration of OUT-THINK, copy the configured OUT-THINK files (OT.COM, HELP.COM, DEMO.COM) to an IBM-PC formatted disk. You may need a multiformat copy program to do this.

5) Make sure you rename file OT.COM to OT.CPM. Now you can start the CP/M emulator and run OUT-THINK.

## 4.6 Apple

OUT-THINK requires CP/M with at least a 48K TPA. On the Apple II, this requirement is often met with the extended language card that increases memory capacity.

The Apple II has a setup program (CONFIGIO) that allows you to reassign keys using a translate table. This allows you to generate several ASCII characters that are otherwise not available on the Apple II keyboard.

The CTRL-B key is often setup to translate to a '\' (backslash) character.

In OUT-THINK, CTRL-B is needed in the leaf editor. You can restore CTRL-B by running the CONFIGIO utility and setting CTRL-B so it is translated as the value 02 in hex.

CTRL-A is usually used as a SHIFT character. In OUT-THINK, CTRL-A is used in the editor to move the cursor to the beginning of the current line. If CTRL-A is setup as a SHIFT, it cannot be used in the editor to move the cursor.

The Apple II keyboard has no delete key (DEL). Use CTRL-@ to delete characters in the leaf editor.

When first copying the distribution Master System Disk, you must use a disk copy utility instead of the CP/M PIP command. The Apple has only 126K on each drive and there is no room to store the PIP.COM file and all the OUT-THINK files on a single disk. First, copy the Master System Disk and then SYSGEN the copy you just made.

## 4.7 Commodore 128

The Commodore 128 can run OUT-THINK under the CP/M operating system. At least one 1571 disk drive is required and two drives are preferable.

OUT-THINK is distributed in the Osborne I format for the Commodore 128. However, the Commodore 128 is listed on the main machine list during installation.

If you have only one drive available, consult your CP/M manuals for the instructions on making a single drive copy. Basically, you format and sysgen a new disk in the Commodore Double Sided format and place the PIP.COM file on it. Then, boot off the newly formatted disk. A feature of CP/M allows you to perform a single drive copy by specifying drive E as

the source drive. The newly formatted disk in drive A is the destination. The command line looks like the following:

```
A>PIP A:=E:*.*[OV]
```

Then, PIP prompts you to change disks when needed.

## 4.8 DEC Rainbow

DO NOT PRESS CTRL-C AT ANY TIME WHILE RUNNING OUT-THINK.

The version of CP/M-80 that runs on the DEC Rainbow does not allow the CTRL-C to be trapped within an application program. Instead, it returns you to CP/M and you may lose data depending on the operation you were trying to abort.

OUT-THINK is distributed for DEC CP/M systems on a DEC VT-180 formatted, 5-1/4" diskette.

## 4.9 Kaypro

OUT-THINK is often distributed in the single-sided Kaypro format. This format can be read in both the single-sided Kaypro II as well as Kaypro equipment with double-sided disk drives (e.g., Kaypro 2X, Kaypro 4, and Kaypro 1.)

To read a single-sided disk in a Kaypro with double-sided drives, you must place the single-sided Master System disk in drive B. (NOTE: On the Kaypro 10, use the drive C floppy.) Then, place a double-sided

disk containing the operating system and the CP/M PIP command in drive A. Reset your computer and use the PIP command to copy the Master System Disk files from drive B to the double-sided disk in drive A (or to your hard disk drive on the Kaypro 10).

Follow the detailed instructions in the section on Backing Up your Master System Disk when you have two Floppy Disks, and you should have no trouble reading the single-sided disk format.

## 4.10 Osborne I

The Osborne I version of OUT-THINK requires the double density upgrade; the single density drives do not provide enough disk space for OUT-THINK's files.

The Osborne I has no delete key (DEL). Use the CTRL-- to delete characters in the editor.

## 4.11 Osborne Executive

There is a bug in the Osborne Executive operating system that can cause your keyboard to lock up while running software on the Executive.

To avoid this problem within OUT-THINK, run the SETUP program that came with your Executive. When the device table is displayed, it may contain some entries which are listed as "none". Usually, the MODEM and the Printer default to "none".

These entries must be set to some other value to avoid the problem. Set the MODEM to 300 or 1200 baud and its Device Selection to OTHER (AUXIN:/AUXOUT:). Set

the Printer to 300 or 1200 baud and its Device Selection to PRINTER (LST:). In no case should any of the listings in the table be set to "none".

After setting up the devices, select the option to save the settings to disk permanently. You should then boot from the disk you've set up before you run OUT-THINK.

Note also that the Osborne Executive does not have the delete key (DEL). You can use CTRL-- to delete characters in the OUT-THINK leaf editor instead of the DEL key that is documented in the manual.

## 4.12 Radio Shack Model 4

OUT-THINK makes intensive use of the Model 4's disk drives. We recommend that you use the CONFIG utility to change the step rates for your drives to the smallest value that falls within the range specified for your drives by their manufacturer. All the TRS-80 Model 4's that we tested worked best with step rates set to 6 ms.

The Radio Shack Model 4 does not have a DEL key on its keyboard. Use the CLEAR key whenever the manual specifies using the DEL key.

The Radio Shack Model 4 does not have an ESC key on its keyboard. Use either the up-arrow or the SHIFT-CLEAR key for this.

You can setup the function keys (F1, F2, and F3) to perform useful tasks under OUT-THINK. Avoid pressing these keys if they are configured with their default settings.

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